CLAIMS

1.   (Currently Amended) An apparatus comprising:

a flow manager;

a remote logical port (RLP) model to model a remote physical port (RPP); and

a trunk scheduler to schedule transmission units directed to the remote physical port.

2.   (Original) The apparatus of claim 1 wherein the flow manager comprises:

a flow shaper; and

a flow parameter database.

3.   (Original) The apparatus of claim 1 wherein the flow manager comprises:

an RLP scheduler; and

a flow parameter database.

4.   (Original) The apparatus of claim 2 wherein the flow manager further comprises:

an RLP scheduler.

5.   (Original) The apparatus of claim 1 wherein the RLP model comprises:

an RLP data structure to hold data indicating characteristics of the RPP; and

an RLP traffic shaper to make a transmission unit eligible consistent with the characteristics of the RPP.

6.   (Original) The apparatus of claim 4 wherein the flow manager comprises a plurality of queues, one queue for each flow directed toward the RPP.

7.   (Original) The apparatus of claim 6 wherein shaping and scheduling are performed by manipulating pointers to the queues.

8.   (Original) The apparatus of claim 1 wherein the trunk scheduler statistically multiplexes an aggregate of the flows directed to a plurality of RPPs.

9.   (Original) The apparatus of claim 1 wherein the trunk scheduler operates in a weighted round robin non-work conserving manner.

10.   (Original) The apparatus of claim 1 further comprising one of an OC-3 port and a DS-3 port.

11.   (Original) A system comprising:

a broadband communication link;

a demultiplexer coupled to a plurality of physical ports and the broadband communication link; and

a network element coupled to the communication link, the network element modeling the plurality of physical ports and providing a two-tier hierarchy of shaping and scheduling of flows directed to the plurality of physical ports.

12.   (Original) The system of claim 11 wherein the network element comprises:

a first flow shaper to shape a plurality of flows directed to a remote physical port (RPP);

a first scheduler to schedule the flows shaped by the first flow shaper to yield a scheduled flow;

a second flow shaper to shape the scheduled flow; and

a trunk scheduler to schedule the flow shaped by the second flow shaper for transmission to the RPP.

13.   (Original) The system of claim 11 further comprising:

a plurality of data structures populated with data indicating characteristics of a remote physical port (RPP); and

a database populated with flow parameters.

14.   (Original) The system of claim 13 wherein a one-to-one correspondence exists between RLP data structures and RPPs.

15.   (Original) The system of claim 12 wherein the network element comprises:

a queue for each flow directed at a physical port and wherein shaping and scheduling are performed by pointer manipulation.

16.   (Original) A method comprising:

modeling a plurality of remote physical ports (RPP) as a plurality of remote logical ports (RLP); and

reflecting quality of service from a control aggregator to the plurality of RPPs.

17.   (Original) The method of claim 16 wherein reflecting comprises:
shaping a plurality of flows directed to a RPP into a plurality of shaped flows;
scheduling the shaped flow into a scheduled flow;
shaping the scheduled flow into a shaped scheduled flow; and
scheduling the shaped scheduled flow for transmission to the RPP>

18.   (Original) The method of claim 16 wherein modeling comprises:
populating a database with an entry indicating an ability of an RPP to handle
data.

19.   The method of claim 18 wherein modeling further comprises:
creating a data structure for each flow directed to a remote physical port; and
manipulating the data structure to indicate eligibility of a transmission unit
consistent with the ability of the RPP to handle data.

20.   (Original) The method of claim 16 further comprising:
statistically multiplexing the flows from the plurality of RLPs to the plurality of
RPPs.

21.   (Original) The method of claim 16 wherein a one-to-one correspondence exists
between the RLPs and the RPPs.